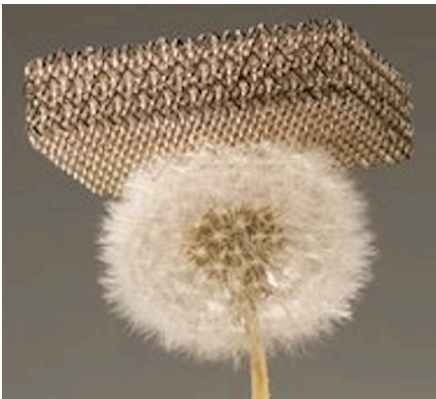


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Institute for Multiscale Materials Studies



Dr. Tobias A. Schaedler
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Metallic Microlattices: The World's Lightest Material

**Thursday, March 8, 2012
10:00 A.M.**

TA-3, Bldg. 4200, Suite 101A, Access Grid Conference Room

Abstract: In addition to being useful in their polymer form, HRL's microlattice materials can also be used as templates to capture the desired architecture in a variety of other materials, such as metals and ceramics. By designing the cellular architecture at three levels of hierarchy we have recently fabricated metallic microlattices with densities as low as 0.9 mg/cc, lower than any other material ever reported. This unique hierarchical architecture also results in unprecedented mechanical behavior: complete recovery from compressive strains exceeding 50% and high energy absorption. The density and strength of the metallic microlattices can be tailored and has been increased to a regime that shows potential for blast and impact mitigation.

Bio: Dr. Tobias A. Schaedler is a Research Staff Scientist in the Architected Materials Department at HRL Laboratories, LLC. He received his Ph.D. in Materials Science from the University of California in Santa Barbara. He is the lead author of the publication in *Science* **334**, 962 (11/2011) on ultralight metallic microlattices that garnered international attention in the popular media.

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